

OFFICIAL

Application No. 09/369,231

Declaration of James Walter, the present invention produces a completely unique surface structure having gnarled nodes situated between nodal clusters wherein the gnarled nodes are substantially devoid of fibrils along their protruding lengths (see, e.g., claims 1 (twice amended) and 2 (twice amended)). Declaration of Walter, at Paragraph 2. The surface of the present invention can likewise have a structure whereby the protruding length of the fibril-less node has length that is greater than the height of adjacent ridges (see, e.g., claim 10 (twice amended)). Id.

At the interview it was explained that the remarkable structure of the present invention is achieved by modifying conventional laser equipment to intentionally unfocus a laser beam. Whereas conventional use of lasers to modify surfaces employ focused laser beams, the present inventor determined that the unusual and beneficial surface structures claimed in the present application can be produced by significantly modifying the laser to produce a very wide beam of relatively low and gradient power across the beam area. Declaration of Walter, at Paragraph 3; Exhibits 2 and 3. Nothing in any of the cited references teaches such a process modification or suggests that the unique surface structure claimed in the present application could be produced through such a modified procedure.

As was discussed, the Okita et al. patent applied in the outstanding Office Action specifically teaches surface modification using a focused laser beam. Okita et al. teach surface modification of hollow fibers through decomposing the fibers "...by scanning with a CO₂ laser (100 watts) beam obtained by focusing with a lens system consisting of a condenser, reflector, and a conical mirror." Col. 6, lines 1-5 (emphasis added); see also Col. 2, lines 63-65 (if a very fine texture is desired, a laser is preferably used); col. 3, lines 8-11 (scanning with a CO₂ laser decomposes "...not only the fibers but also part of the nodes is volatilized."). As Okita et al. further teach, this system acts to cut the fibers and volatilize the nodes: "By this physical treatment, not only were the fibers portions cut but also the nodes forming the porous structure were volatilized." Col. 6, lines 5-7.

At the interview James Walter demonstrated that treating an expanded PTFE material identical to the material taught in the present application using the focused laser taught in Example 3 of the Okita et al. patent either will completely cut through the material or, with greatly reduced power, will produce distinct, fine grooves or partial perforations in the material. None of the surface modified using the Okita et al.'s focused laser produced the gnarled nodal structure claimed in the present application. The photomicrographs of this experiment shown at the interview are attached as Exhibit 4 to Mr. Walter's Declaration.

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Mr. Walter also demonstrated at the interview that taking a starting PTFE material with much finer structure, such as that described in Example 3 of the Okita et al., and running the same experiment likewise resulted in either complete cut through of the material or, with reduced power, distinct fine grooves or partial perforations. The photomicrographs of this experiment shown at the interview are attached as Exhibit 5 to Mr. Walter's Declaration.

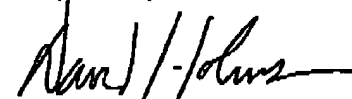
As was explained at the Interview, the procedures taught in the Okita et al. patent do not result in a surface structure in any way similar to the structure taught and claimed in the present application. As was requested, the attached Declaration of James Walter provides evidence that the unique expanded PTFE structure claimed in the present application cannot be achieved using a focused laser beam as taught in the prior art and, as such, is new and non-obvious over all of the cited references. Declaration of Walter, at Paragraph 6.

With the submission of Mr. Walter's declaration, all of the grounds for rejection have now been overcome. Reconsideration and allowance of the present application are respectfully requested.

Conclusion

Accordingly, each of claims 1 (twice amended), 2 (twice amended), 3 (amended), 4 (amended), 5-7, 10 (twice amended), and 12-27 is new and non-obvious over all of the cited references. Applicant respectfully requests reconsideration and allowance of all of the claims in the present application. If any questions remain, applicant requests an interview before issuance of the next Office Action.

Respectfully submitted,



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